

Amendments to the Claims

Please amend Claims 1, 3-9, 15-17, and 21-23. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing

1. (Currently Amended) A method for preconditioning, activating or both of a gas decontamination substrate within a vessel, which comprises:
 - a) [[a.]] filling said vessel containing said substrate with a purging gas and raising said purging gas to an elevated pressure within said vessel;
 - b) [[b.]] maintaining said purging gas at said elevated pressure for a predetermined period of time;
 - c) [[c.]] venting contents of said vessel to ~~an environment having~~ decrease pressure within said vessel to a lesser gas pressure, the lesser gas pressure being substantially less than said elevated pressure, such that much of said purging gas and any contents of said vessel displaced by said purging gas are is evacuated from said vessel; and
 - d) [[d.]] repeating steps ~~a., b. and c.~~ a), b) and c) at least once,whereby said substrate within said vessel becomes preconditioned or activated or both for subsequent decontamination of a contaminated gas.
2. (Original) A method as in Claim 1 wherein said purging gas is the same type of gas as a gas which is to be subsequently decontaminated or is the same type of gas as a principal component of a gas mixture which is to be subsequently decontaminated.
3. (Currently Amended) A method as in Claim 1 wherein a ratio of the pressure differential between said elevated pressure ~~and to said lesser gas pressure of said environment~~ is at least ~~a factor of two~~.

4. (Currently Amended) A method as in Claim 3 wherein the ratio of pressure differential between said elevated pressure and to said lesser gas pressure of said environment is at least a factor of five.
5. (Currently Amended) A method as in Claim 3 wherein the ratio of pressure differential between said elevated pressure and to said lesser gas pressure of said environment is a factor in the a range of from 2 to 10^{10} .
6. (Currently Amended) A method as in Claim 5 wherein the ratio pressure differential is up to 10^8 when the lesser gas pressure is subatmospheric or up to 10^4 when the lesser gas pressure is substantially atmospheric.
7. (Currently Amended) A method as in Claim 1 wherein said steps a., b. and c. a), b) and c) are repeated 2-200 times.
8. (Currently Amended) A method as in Claim 7 wherein said steps a., b. and c. a), b) and c) are repeated 10-100 times.
9. (Currently Amended) A method as in Claim 1 where each said step [[b.]] b) is continued for a period of 10 seconds to 10 minutes.
10. (Original) A method as in Claim 1 wherein said purging gas is a mixture of at least two gases.
11. (Original) A method as in Claim 10 wherein one of said gases is present in said mixture in a concentration in the range of 5 ppm to 5 percent of said mixture.
12. (Original) A method as in Claim 10, further comprising that the relative concentrations of the gases in said mixture does not substantially change during operation of said method.

13. (Original) A method as in Claim 1 wherein said purging gas is a bulk gas, a speciality gas or a gas mixture.
14. (Original) A method as in Claim 13 wherein said purging gas comprises hydrogen, oxygen, nitrogen, argon, hydrogen chloride, ammonia, air, carbon dioxide, helium, silane, germane, diborane, phosphine, arsine or mixtures thereof.
15. (Currently Amended) A method as in Claim 1 wherein said subsequent decontamination of said contaminated gas ~~comprised~~ includes reduction of concentration of contaminants to a level of no greater than 1 ppm.
16. (Currently Amended) A method as in Claim 15 wherein said subsequent decontamination of said contaminated gas ~~comprised~~ includes reduction of concentration of contaminants to a level of on the order of 1-10 ppb.
17. (Currently Amended) A method as in Claim 16 wherein said subsequent decontamination of said contaminated gas ~~comprised~~ includes reduction of concentration of contaminants to a level of on the order of 1-100 ppt.
18. (Original) A method as in Claim 1 wherein said substrate is porous.
19. (Original) A method as in Claim 18 wherein said substrate has a surface area of at least 100 m²/g.
20. (Original) A method as in Claim 18 wherein said method is used to accomplish activation of decontamination sites on the surface of said substrate.
21. (Currently Amended) A method as in Claim 18 wherein said method is used to accomplish preconditioning of said substrate by purging ~~its content~~ of a packing gas from the substrate.

22. (Currently Amended) A method as in Claim 21 wherein preconditioning causes a chemical reaction which generates a gaseous byproduct and accomplishing preconditioning of said substrate comprises purging ~~its content of~~ said packing gas and ~~of~~ said byproduct from the substrate.
23. (Currently Amended) A method as in Claim 1 wherein said steps ~~a, b, and c~~ a), b) and c) are repeated until the temperature within said vessel passes through a maximum value and decreases to a substantially constant equilibrium value.